Amendments to the Claims: Claims 1-4, 6-8, 11 and 16-18 are amended. Claims 9, 10 and 19 are canceled. Claims 20-22 are added. This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) A method for making ~~an~~ a custom-fit palatal arch expander for a patient, the method comprising:

acquiring at least one digital scan representing at least a portion of upper teeth and a palate of the patient [[scanning the patient's dentition]];

fabricating [[an appliance adapted to be positioned between posterior teeth and a palatal arch, the appliance having first and second movable portions]] a first portion of the custom-fit palatal arch expander, the first portion having a plurality of cavities for receiving posterior teeth on one side of the palate and a palatal portion extending toward a centerline of the palate;

fabricating a second portion of the arch expander, the second portion having a plurality of cavities for receiving posterior teeth on an opposite side of the palate and a palatal portion extending toward the centerline of the palate; and

~~providing~~ coupling an ~~expander~~ expansion member between the first and second portions, [[of the appliance]]

wherein each of the plurality of cavities is specifically configured to fit over one of the posterior teeth of the patient, based on the shapes of the posterior teeth as represented in the digital scan(s).

2. (currently amended) The method of claim 1, further comprising adjusting the ~~expander~~ expansion member to vary the spacing between the first and second portions [[of the appliance]].

3. (currently amended) The method of claim 1, wherein the ~~expander~~ expansion member comprises one or more screws.

4. (currently amended) The method of claim 1, wherein the ~~expander~~ expansion member comprises one or more springs.

5. (original) The method of claim 1, wherein the first and second portions comprise super-elastic nitinol.

6. (currently amended) The method of claim 1, wherein the ~~appliance is~~ first and second portions are fabricated using stereolithography, fused deposition modeling, 3-D printing, or selective laser sintering.

7. (currently amended) The method of claim 1, wherein acquiring the ~~scanning~~ at least one scan comprises intra-oral scanning.

8. (currently amended) The method of claim 1, wherein acquiring the ~~scanning~~ at least one scan comprises:

taking an impression of the patient's teeth;

placing the impression in a scanner; and

generating a 3D model of the impression.

9-10. (canceled)

11. (currently amended) A custom-fit dental appliance for expanding a palatal arch of a patient, the appliance comprising:

a first portion having a plurality of cavities for receiving posterior teeth on one side of the patient's palate and a palatal portion extending toward a centerline of the palate;

a second portion having a plurality of cavities for receiving posterior teeth on an opposite side of the patient's palate and a palatal portion extending toward the centerline of the palate, [[a shell including]] wherein the first and second portions each include at least one layer of a polymeric material [[and having a cavity which fits closely over one or more posterior teeth, the shell having first and second moveable portions;]]; and

an expander ~~positioned~~ coupled between the first and second portions [[of the appliance]],

wherein each of the plurality of cavities is specifically configured to fit over one of the posterior teeth of the patient, based on the shapes of the posterior teeth as

represented in at least one digital scan(s) of at least some of the patient's teeth and the patient's palate.

12. (original) The dental appliance of claim 11, wherein the expander is user-adjustable to vary a spacing between the first and second portions of the appliance.

13. (original) The dental appliance of claim 11, wherein the expander comprises one or more screws.

14. (original) The dental appliance of claim 11, wherein the expander comprises one or more springs.

15. (original) The dental appliance of claim 11, wherein the first and second portions comprise super-elastic nitinol.

16. (currently amended) The dental appliance of claim 11, wherein the ~~shell is~~ first and second portions are fabricated using stereo-lithography, fused deposition modeling, or selective laser sintering.

17. (currently amended) The dental appliance of claim 11, wherein the ~~shell~~ shape of each cavity of the first and second portions is determined by intra-orally scanning a patient.

18. (currently amended) The dental appliance of claim 11, wherein the ~~shell~~ shape of each cavity of the first and second portions is determined from digitally captured scans of a patient's dentition and palatal arch.

19. (canceled)

20. (new) The dental appliance of claim 11, wherein the plurality of cavities are configured to allow the patient to remove and replace the dental appliance.

21. (new) The dental appliance of claim 11, wherein the plurality of cavities are configured to retain the dental appliance without requiring brackets or other fixtures to be adhered to the patient's teeth.

22. (new) A method for expanding a palatal arch of a patient, the method comprising:

acquiring at least one digital scan representing at least a portion of upper teeth and a palate of the patient;

fabricating, based on the scan(s), a custom-fit arch expander for the patient, the arch expander comprising:

a first portion having a plurality of cavities for receiving posterior teeth on one side of the palate and a palatal portion extending toward a centerline of the palate;

a second portion having a plurality of cavities for receiving posterior teeth on an opposite side of the palate and a palatal portion extending toward the centerline of the palate; and

coupling an expansion member between the first and second portions, wherein each of the plurality of cavities is specifically configured to fit over one of the posterior teeth of the patient, based on the shapes of the posterior teeth as represented in the digital scan(s); and

placing the arch expanded in the patient's mouth to expand the patient's palatal arch.